REMARKS

The Office Action dated September 29, 2004 has been read and carefully considered and the present amendment submitted in order to point out the differences between the present invention and the references of record.

In the aforementioned Office Action, claims 1-28 were rejected under 35 U.S.C. 102(b) as begin anticipated by WO00/62888. Accordingly, all of the independent claims, that is, claims 1, 2, 14 and 20 have now been amended to better define the present invention and to clarify the distinctions of the system of the present invention over the cited reference.

As clearly set forth in the claims, the interior surface of the outer chamber has a configuration that has a center, the interior surface of the inner chamber likewise has a center, and the centers of the respective interior surfaces are displaced away from each other. Therefore, as described in the specification, paragraph [0029], the geometry of the interior surfaces of the inner and outer chambers are relatively easy to fabricate displaced with respect to each other without any difficult angles to construct since the centers of the chambers are displaced away from each other to allow the water to enter the system and the tank with a normal inlet fitting directing the water inwardly along a straight line and into the inner chamber where it strikes the interior surface at a tangent thereto. In the embodiment illustrated, those interior surfaces are both cylindrical.

Since the respective centers of the interior surfaces are offset with respect to each other, the inlet formed in the outer chamber can simply direct the incoming water in a generally straight path through the inlet opening in the inner chamber and strike the interior surface of the inner chamber general at a tangent to that surface whereupon the water thereafter follows a normal swirling downward pattern around the inside of the inner chamber and exits the inner chamber at an outlet opening located at a lower position that the inlet opening. By that geometry of configuration, the water flowing through the system can flow in a natural, well defined pattern and without turbulence.

The utilization of the "off center" interior surfaces of the inner and outer chambers allows the inlet in the outer chamber to be fabricated by inexpensive techniques and not need to be angled inwardly to achieve the tangential striking of the interior surface of the inner

chamber. As such, by offsetting the centers of the inner and outer chambers, the incoming water can follow a straight path so as to directly enter the inner chamber without the use of weirs and water pressure/head to drive the flow to the inner chamber. Instead, the system is based on momentum and Newton's laws of inertia (objects will travel in a straight line unless redirected by another force/body) since the water travels in a generally straight line from the inlet in the outer chamber directly into the inner chamber through the inlet opening where the water strikes the interior surface of the inner chamber at a tangent, thereby creating less disruption to the stream of water and allowing that incoming water to swirl around the interior surface of the inner chamber. The water entering the inner chamber thus has less turbulence and better hydraulics since the flow is in a generally straight line into the inner chamber from the inlet in the outer chamber through the inlet opening in the inner chamber without the use of weir/plates redirecting that water and the water follows a natural vortex motion throughout the present apparatus.

A further distinction resides in the use of an inner chamber since the initial chamber in the cited reference is an annulus where the water is carried within an outwardly oriented annular channel and is therefore limited, as a practical matter, in its flow capacity and cannot accommodate larger diameter pipes. For example, typical pipes used in stormwater treatment are 18" – 36" in diameter and the annulus chamber of the cited reference would have to be impractically large to handle the flows of water of that quantity given the limited space for bypassing the flow through both the baffle opening 105 and weir 103 of the cited reference.

Moreover, all of the flow in the cited reference passes through that annular chamber and, therefore, when high flows are encountered, those flows will sweep up any solids in the annular chamber and pass them directly through the system. Specifically, the system of the reference operates whereby, during low flows water will enter the annual by-pass area first and solids will settle in the annular area since the flow will hit the weir and stop; forcing water down into the inner chamber. These solids will consequently, be flushed out of the referenced system during high flows since the floor of the annular area is at substantially the same height as the inlet pipe (i.e. solids settle in the annular area and do not have the opportunity to enter the inner chamber). With the use of an inner chamber as now claimed by Applicant, the solids fall centrally downwardly in the inner chamber at low flows and, at high flows, the water is diverted or prevented from entering the inner chamber so that the solids at the bottom of the inner chamber are not swept up but remain within the inner chamber. Thus,

with the present geometry, the high flows are diverted from entering the inner chamber of Applicant's system where, to the contrary, those high flows enter and pass through in initial, outwardly oriented, annular chamber of the cited reference.

As such, a further distinction is recited in the amendment to claim 20 where it is now recited that the high flow of water, such as is caused by a heavy storm, is prevented from entering the inner chamber but instead passes directly to the outer chamber and thereafter through the baffle opening in the baffle plate to the outlet. As such, even the high flow of water that bypass the inner chamber is still treated for the removal of floatable and non-floatable materials by passing though the baffle opening that is positioned so as to obstruct both floatable and non-floatable materials before the water leaves the system through the outlet.

For the foregoing reasons, it is submitted that the present claims of the subject patent application define a patentable invention over the cited reference and an allowance of the present patent application is respectfully solicited.

Respectfully submitted,

David A. Jackson
Attorney for Applicants
Registration No. 26,742

KLAUBER & JACKSON
411 Hackensack Avenue
Hackensack, NJ 07601
(201) 487-5800
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